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Improving Pharmacy Customer Satisfaction

at Reynolds Army Community Hospital

Fort Sill, Oklahoma

Graduate Management Project

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Baylor University

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14. ABSTRACT

The primary objective of this study was to determine in Reynolds Army Community Hospital (RACH) patients are experiencing dissatisfaction with their overall pharmacy experience, as indicated in the DoD Provider Level Patient Satisfaction Survey (PLPSS). A locally developed marketing assessment questionnaire with 37 questions consisting of patient satisfaction dimensions, demographics and utilization questions was used to collect information. The study showed RACH beneficiaries are satisfied with their overall pharmacy experience, accepting the alternate hypothesis: the DoD PLPSS result for overall satisfaction with pharmacy services is not reflective of all the beneficiary categories of the RACH patient population. The highest frequencies of excellent responses were: friendliness and courtesy shown to you (37.6%); quality of treatment you received (34.7)%; and answers to questions concerning medications (34.7%). Beneficiary category was a contributing factor to satisfaction with overall quality of care and service (X2=87.404; df=5; p<.0001) with 33% of active duty beneficiary responses as "very good" or "excellent."

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Abstract

The primary objective of this study was to determine if Reynolds Army Community Hospital (RACH) patients are experiencing dissatisfaction with their overall pharmacy experience, as indicated in the Department of Defense (DoD) Provider Level Patient Satisfaction Survey (PLPSS). A locally developed marketing assessment questionnaire, totaling 37 questions consisting of patient satisfaction dimensions, demographics and utilization questions was used to collect information. The study showed RACH beneficiaries are satisfied with their overall pharmacy experience, accepting the alternate hypothesis: the DoD PLPSS result for overall satisfaction with pharmacy services is not reflective of all the beneficiary categories of the RACH patient population. Results from 1,500 questionnaires were input into Statistical Package for the Social Sciences (SPSS) 13.0 student version for interpretation and analysis. Twenty-two satisfaction questions were rated on a five point Likert scale from "poor" through excellent. The overall response rate for the study was 75%. The highest mean score, 3.94 with a standard deviation of $\pm$1.07 was attributed to the Interpersonal care dimension, the lowest mean score, 1.04 with a standard deviation of $\pm$1.73 was attributed to the Access dimension. The highest frequencies of excellent responses were: friendliness and courtesy shown to you (37.6%); quality of treatment you received (34.7%); and answers to questions concerning medications (34.7%). The highest frequencies of "poor" responses were: length of time waited (20.4%); arrangements for parking at (8.9%); and ease of getting pharmaceuticals in an emergency (4.9%). The study revealed 86% of the respondents received their regular healthcare at RACH; 63% of the respondents indicated their overall evaluation of the quality of care at RACH was "very good" or "excellent;" and 61% said they used the RACH pharmacy once a month. Beneficiary category was a contributing factor to satisfaction with overall quality of care and service ($X^2 = 87.404$; $df = 5$; $p < .0001$) with 33% of active duty beneficiary responses as "very good" or "excellent." Gender was another contributing factor influencing satisfaction, the study revealed females indicated their overall level of satisfaction to be "very good" or "excellent" more so then males did ($X^2 = 45.686$, $df = 5$, $p < .0001$).

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Improving Pharmacy Customer Satisfaction

The Military Healthcare System is a healthcare system intended to provide state of the art medical care to our nation's fighting forces past and present along with their dependents. "The Department of Defense (DoD) provides health and pharmacy benefits to approximately 8.7 million beneficiaries, including active duty and retired military personnel and their family members as well as surviving family members of deceased military personnel" (Glassman, et al., 2004, p. 361). Historically it was believed the healthcare benefit, which is provided free of charge to all active duty service members, would follow them into retirement. This changed significantly with the introduction of TRICARE, when the Military Healthcare System was transformed to be similar to civilian or private sector health insurance plans. In the civilian sector health insurance primarily operates as a for profit business and operates with a system of premiums and co-payments. Changing the long standing mindset of the rank and file, primarily the retired and those in service prior to 1995, was a challenge and remains challenging. Educating the beneficiary population on what is covered; how to obtain care; what options are available; and what benefits are included in the respective TRICARE benefit plans is a continuous process.

At Reynolds Army Community Hospital (RACH), Fort Sill, Oklahoma, the pharmacy operates two departments, inpatient pharmacy and outpatient pharmacy with a satellite facility for refills only co-located with the commissary; it is called the Pharmissary. The hours of operation for the main facility outpatient pharmacy are Monday through Friday 8 a.m. to 6 p.m. and Saturday from 9 a.m. to 3 p.m. The Pharmissary hours are Monday through Friday 9 a.m. to 6 p.m. The RACH pharmacy staff includes 3 military and 11 civilian clinical pharmacists along with 12 military and 10 civilian pharmacy technicians.

The main out patient pharmacy at RACH operates a bank teller system for privacy with six windows, two primarily for intake, one for walk up and generic information, and the final three windows for dispensing by a pharmacist. At the intake windows, patients check in to initiate the process for packaging and dispensing their prescriptions. Patients receive tickets with an alphanumeric code indicating their status: A for urgent, B for Active Duty, C for routine and D for wait and return later for pick up. Reynolds Army Community Hospital pharmacy uses the color system from the Pharmacy 2000 system; prescriptions are categorized into one of four colors: green for routine waiting patients, yellow for active duty, blue to be filled within two hours and red for urgent patients. The waiting area has Q-matic™ scrolling message boards to inform the patients of the estimated waiting time and to indicate when their prescription is ready for pick up.

TRICARE provides a world-class, comprehensive pharmacy benefit. There are four ways to obtain medications: through the outpatient pharmacy at the local military medical treatment facility; through the national mail order pharmacy program; through a local civilian retail pharmacy or drug store; and through non network pharmacies. Each option varies in quantity in terms of days of supply and out of pocket costs in the form of co-pays; using the military medical treatment facility has no cost associated; for mail order, a 90 day supply is $3.00 for generic and $9.00 for name brand prescriptions; for retail pharmacy, a 30 day supply is $3.00 for generic and $9.00 for name brand prescriptions (TRICARE Pharmacy Program, Fact Sheets, 2005). As a result of the National Defense Authorization Act (NDAA) for Fiscal Year 2000, also known as Public Law 106-65, titled the Pharmacy Benefits Redesign Program, requires the Department of Defense (DoD) to integrate its pharmacy programs by creating a single Uniform Formulary (UF) to govern Military Healthcare System beneficiaries' access to outpatient pharmaceuticals. The

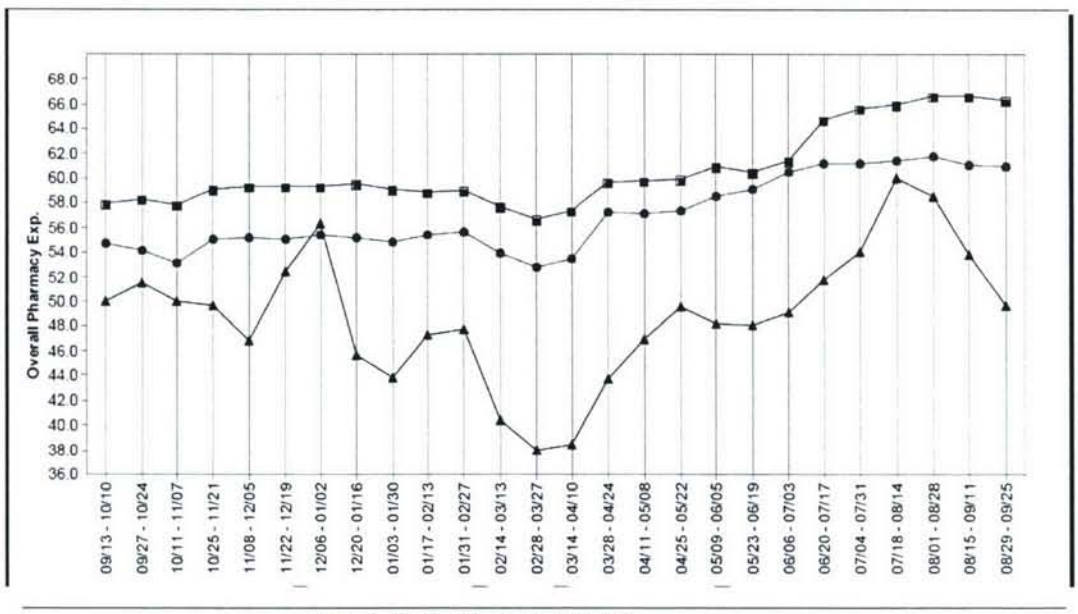
UF can be augmented by local Pharmacy and Therapeutic committees to meet the needs of the specific beneficiary population (Glassman et al., 2004). As recently as January 19, 2006, Dr. William Winkenwerder, Jr., the assistant secretary of defense for Health Affairs and director of the TRICARE Management Activity, made the decision to modify the UF (TRICARE Management Activity, News Release, 2006).

a. Conditions that prompted the study

The Provider-Level Patient Satisfaction Survey (PLPSS) was deployed in FY04 and adopted as the standard tool for measuring patient satisfaction in the outpatient environment in all the Regional Medical Commands (RMC). It is a comprehensive survey program that gives both providers and Medical Treatment Facilities (MTF) leadership timely and actionable feedback from patients. The genesis for the PLPSS was to provide tactical feedback beyond the MTF and to solicit the patients' experience as an indicator of quality. The PLPSS indicated that satisfaction with the overall pharmacy experience, rated as "very good" or "excellent," at RACH over a 12 month period from September 2004 through September 2005 fluctuated between 38 and 60%, which is significantly lower than the Great Plains Regional Medical Command (GPRMC) at 53 to 62%, and the entire AMEDD at 56 to 66%. The results of the PLPSS were calculated based on the number of responses in the top two categories, "very good" and "excellent." This indicates that if 38% answered either "very good" or "excellent," the remaining 62% answered as "good," "fair," or "poor" without indication as to how many were "good," "fair," or "poor." The result range is also below other RACH ancillary services, such as laboratory and radiology, both averaging about 70%. The results reflect how RACH's pharmacy service was perceived by RACH respondents to the PLPSS survey when compared to other pharmacy departments in GPRMC (see Figure 1).

The PLPSS is highly visible to both local and higher commands and covers the entire patient encounter, not just a particular aspect of the care. The outcome from the DoD survey indicates there may be underlying concerns which the leadership should address to improve the pharmacy service provided. The assertion made by the researcher was the one PLPSS question

Figure 1. AMEDD Provider – Level Patient Satisfaction Survey



Overall Pharmacy Experience depicting Fort Sill at a consistently lower score

used to assess a patient's overall pharmacy experience was too broad, so a tool was adapted from an existing tested source to elicit more detailed responses. Currently the PLPSS asks only one question concerning pharmacy: "Overall, how would you rate your Pharmacy experience" with the available responses: "Poor" (1); "Fair" (2); "Good" (3); "Very Good" (4); "Excellent" (5); and "No Experience" (0). It is a closed end, broad in scope question with limited defined responses and it is the only question asked in reference to RACH pharmacy service. The overriding consideration in questionnaire design is to make sure questions can accurately assess the desired information (Creative Research Systems, n.d.). Experiences can be influenced

positively or negatively, but the PLPSS does not allow the patient to indicate what led them to their conclusion or dissatisfaction. The results from the research tool will assist local leadership to identify underlying problems that contribute to patients' dissatisfaction with the RACH pharmacy. Beneficial surveys according to Tucker and Adams (2001) state that "surveys on patients' satisfaction and quality assessments must allow the researcher to identify correctly predictors of variations in order to be useful" (p. 272).

b. Statement of the Problem or Question

This project asked the question: Are RACH patients experiencing dissatisfaction with their overall pharmacy experience and if so which beneficiary category? The scope of this project included beneficiaries presenting to the main outpatient pharmacy at RACH. The main outpatient pharmacy was chosen as the test location because of the large volume of patients per day and the ease of collecting information. The daily average number of prescriptions dispensed at the RACH outpatient pharmacy is approximately 2,000 (personal conversation with Major Eric Maroyka, chief of pharmacy at RACH Sept 12, 2005).

c. Literature Review

A review of the literature was conducted to evaluate studies and research relating to this project, and to develop a basic understanding of the DoD pharmacy benefit. No studies were found that specifically examined beneficiary satisfaction with outpatient pharmacy services in the Military Healthcare System. Literature reviewed for this project focused primarily on satisfaction measurements and dimensions.

The importance customer satisfaction plays on healthcare is a relatively new concept to the Military Healthcare System. With the introduction of TRICARE, prudent stewardship and management of resources became the focus for providing care and a conversion to a strictly

monitored business plan. Business plans hold institutions accountable for efficient and effective care while maximizing resources, which is becoming more crucial with the move to a prospective payment system. As part of measuring appropriate resource utilization, customer or patient satisfaction has been introduced as a tool for monitoring efficiency in delivering our healthcare. The shift to the importance of customer satisfaction has made it "incumbent upon healthcare providers to seek input from their customers and to use that information to improve services and create innovative strategies that meet and exceed expectations" (Urden, 2002, p.194).

The healthcare environment is a changing environment and in order to compete effectively, providers must embrace a concept of service excellence pharmaceutical services have moved from a product focus to a patient focus and as such patients expect their pharmacists to be competent and provide value-added services (Craig, Crane, Hayman, Hoffman, & Hatwig, 2001). Customer satisfaction has become a key indicator for assessing performance and rating experience.

Satisfaction is decided on an individual basis in response to the environment be it physiologically, emotionally or cognitively and is determined by those experiences and expectations (Fottler, Ford, Roberts, & Ford, 2000). "Satisfaction implies only that expectations have been met. Patients can be satisfied with care that is not high quality and can be dissatisfied with quality care" (Cleary & Edgman-Levitan, 1997, p. 1609). The Picker Institute (n.d.) states satisfaction is an ill defined concept; patient satisfaction is sometimes treated as an outcome metric and other times a process metric. Satisfaction ratings reflect three variables: personal preferences of the patient; patient's expectations; and realities of the care received. "Asking patients about their overall satisfaction initially received an affirmative response and it was only

in response to detailed questions that a more complex picture emerged" (Avis, Bond, & Arthur, 1995, p. 63). For the purpose of this project satisfaction was focused on patient's expectations, and their perspective. Doucette (2003) would agree as well, stating that quality is a measure of outcomes, and service is a measure of perception or what matters to the patient.

Cost, quality and access are the watchwords of today's healthcare environment (Jennings & Loan, 1999). Each has a different level of importance depending on perspective, either the provider or the consumer. If a patient does not like the manner in how the care was delivered regardless of the caliber of care, they may choose to take their business elsewhere. Patients' expectations are wielding strong influence over how business is conducted. Patients want high quality care for an affordable and reasonable price and they want access when they need it. "People tend to take it for granted when they receive good clinical care, but they remember how they were treated, the personal touches, and whether their overall experience was pleasant" (Schueler, 2000, p. 29).

Desselle (2001) states evidence continues to mount that the structure and design of the prescription drug benefit, or pharmacy benefit, is one of the more important features of a health care plan to patients. The rising cost of healthcare and pharmaceuticals causes many to closely evaluate the plans they choose. "Satisfaction with health plans and plan benefits is important not only to plan beneficiaries but also to health plan providers" (Sansgiry & Sikri, 2004, p. 380). In the Military Healthcare System, with the shift from free care to managed care, budgets became tethered to productivity and cost containment. The mission shifted to healthcare as a business and corporate solvency became the focus. Evidence of this is in the media with the over 65 population with the challenges in deciphering the Medicare Part D literature and deciding on how they are going to meet their pharmaceutical needs. In May of 2002, (as cited in Fullerton &

Atherly, 2004), the National Institute for Health Care Management, indicated a 17% cost increase in outpatient drug costs for the year 2001, this increase was the fourth consecutive year of increases, as well as the doubling of retail sales from 1999 to 2001, to over $1Billion.

Projected changes in funding the TRICARE benefits package potentially increases the out of pocket cost to the beneficiary, which is currently no cost to the beneficiary when using the resources organic to a military treatment facility. According to the Pharmacy Data Transaction System (PDTS), the system that captures workload and expenditure data for Military Treatment Facilities (MTF), retail pharmacies and mail order prescriptions for an installation's catchment area, the average cost per prescription filled at RACH outpatient pharmacy in January 2006 was $21.84; in February was $22.86; and in March was $ 20.60. Average cost per prescription filled at retail points in January was $74.57; in February was $73.07; and March was $76.89. For mail order the average cost per prescription in January was $112.31; in February was $116.97; and in March was $107.76. The cost is higher for mail order, but covers a three month supply so the monthly average for mail order in January is approximately $37.43; in February $38.99; and in March $35.92.

The shift to managed care offered patients a choice of where to receive their health care, in the MTF or on the economy in the network; and how to meet their pharmacy needs either at the MTF pharmacy, at a retail pharmacy, or through the mail order pharmacy program. Under managed care patient's, as the consumer, satisfaction became a critical metric for measuring success. It was once thought of as a soft indicator primarily used by marketing departments but has changed to become an integral component of strategic organization and healthcare quality management (Urden, 2002). Patients provide feedback as to how effectively goods and services are delivered and where improvements could be made. The feed back is an informal report card

for the organization. Being attentive to their needs, values, and preferences will improve satisfaction and consequently improve service quality (Jennings, Heiner, Loan, Hemman, & Swanson, 2005). The patients are the end user of our services and therefore have the best assessment of how well we provide those services. Patient centered focus and delivery of care has been cited as a way to improve and achieve both higher levels of quality and increased patient satisfaction (Ponte, et al., 2003).

"Healthcare organizations are learning important strategies from the guest services industry about how to provide the type of environment customers expect . . . to meet or exceed customers expectations positively affects customer and employee moods" (Fottler, Ford, Roberts, & Ford, 2000, p. 92). The adage that consumers will vote with their feet is an accurate assessment as it relates to satisfaction. If a consumer does not feel they are being treated with respect or in a timely fashion they will likely take their business elsewhere. Patients may also take their business elsewhere if the facility or setting is not a pleasant one or is a hassle to access. "Satisfaction consists of both a cognitive evaluation and emotional reaction to the components of care delivery and service. It is an individual subjective perception and is closely tied to an individual's expectations regarding the care and services" (Urden, 2002, p. 196).

The environment sets and maintains the mood for the patient or customer experience. Once a patient enters the facility, the entire focus is on establishing and maintaining a positive consistency between what the patient expects and what the patient receives (Fottler, et al, 2000). Customer service starts with the initial contact; it may be on the Internet, on the telephone, in the parking lot, or at the front desk. Customer service should be practiced throughout the entire encounter; a visit could be easily tarnished by a gruff employee. It has been suggested in surveys that customers leave because they are dissatisfied with the quality of service or product, because

of cost, for unknown reasons and for supplier indifference (Fairweather, n.d.). Hiidenhovi, Laippala, and Nojonen (2001) found in their study service is an act or multiphase interactive action carried out by staff in one moment or situation, the dimensions of which are assurance of competence, active attentiveness, dissemination of information, polite manners by staff and flexible helpfulness.

d. Purpose

The purpose of this Graduate Management Project was to explore the patient's perception of and overall experience with the RACH pharmacy by utilizing a local marketing assessment questionnaire. The overall expectation of this research project was to assess the current satisfaction level, identify problem areas for the command, and recommend possible changes to increase the overall satisfaction level of the patient, and substantiate or refute the findings associated with the PLPSS.

a. Variables explored: wait times, number of prescriptions to be filled, age, gender, beneficiary status/category, convenience, frequency of visits, courtesy/greeting, perception of waiting area, medical education provided to the patient, health insurance, parking, and operating hours.

b. The null hypothesis: The DoD PLPSS result for overall satisfaction with pharmacy services is reflective of all the beneficiary categories of the RACH patient population.

c. The alternative hypothesis: The DoD PLPSS result for overall satisfaction with pharmacy services is not reflective of all the beneficiary categories of the RACH patient population.

e. Limitations and Assumptions

The sample size was limited to those who came into the RACH outpatient pharmacy during the weeks chosen for the study. Funding constraints did not allow for the marketing assessment to be mailed. For ease of distribution and collection, the marketing assessment questionnaire was conducted within the confines of the RACH outpatient pharmacy waiting area. This project was further limited by the number of patients willing to complete the marketing assessment questionnaire. It was assumed that past low satisfaction scores have resulted in a loss of beneficiary patronage of the services at RACH, because of previous unpleasant experiences, such as lack of specialty care, operating hours, distance to travel, or more convenient civilian alternatives (Mangelsdorff & Finstuen, 2003). It was also assumed those willing to participate would completely fill out and return the questionnaire. The questionnaire was designed to be completed while the patient waited and it was further assumed all patients would want to participate. The questionnaire was limited to those who utilized the outpatient pharmacy services at RACH because the intent of the project was to determine what was causing the dissatisfaction with the overall RACH out patient pharmacy experience.

Methods and Procedures

A descriptive study was conducted using data collected from a marketing assessment questionnaire and from other available systems. The marketing assessment questionnaire was based on The Patient's View on Health Care, developed and owned by the RAND Corporation, copyright © RAND. Although permission to modify the survey was granted by RAND, the modification itself was not approved or reviewed by RAND. RAND's permission to reproduce the survey is not an endorsement of the products, services, or other uses in which the questionnaire appears or is applied. The research tool, Appendix A, allows for the patient's

perspective through appropriately formatted and tested questions adopted from the RAND Corporation questionnaire. The questionnaire was reviewed and approved by the RACH Board of Directors (BOD) and the Chief of Pharmacy prior to administration. To ensure readability and completeness, a pilot study was conducted in December 2005. From the pilot study, the response option of "Never" for use of the Pharmissary was added to question five. The rank for the Warrant officers was added to question 36. Question 18 was reworded to be in keeping with the syntax of the other questions.

The marketing assessment questionnaire consisted of 37 questions. Twenty-two questions were related to satisfaction dimensions: access, communication, interpersonal care, and environment; and 10 questions were related to demographics; and the remainder was questions related to utilization data. In a previous U.S. Army-Baylor University graduate management project that reviewed patient satisfaction (Patrick, 1995), these same dimensions for satisfaction were utilized. Questions concerning satisfaction were rated on a scale ranging from one as "poor" through five as "excellent." These questions were used as the independent variables and included an answer option for "No Experience" for patients who had not used or were unfamiliar with the question content, for example, using the Internet for refilling prescriptions. The "No Experience" answer was coded as missing data.

Data Collection: The researcher conspicuously placed a well marked box, at the rear of the pharmacy waiting area indicating completed questionnaires were to be deposited there. The researcher as the administrator of the questionnaire placed herself near the intake window to capture patients as they left the window with their wait tickets. Patients were approached and asked if they would like to complete the questionnaire, if yes, then they were handed a copy of the questionnaire and if not, graciously thanked and recorded as a count for the interaction.

Each day questionnaires were date stamped and numbered on the back prior to distribution for accounting purposes. At the end of each day prior to data entry, the top right corner of the first page was annotated numerically. The numbering allowed tracking the amount of questionnaires distributed and returned. The denominator, 2,025 was the total number of patient encounters representing the number of patients approached that declined participation added to the number of distributed questionnaires. The numerator, 1,519 was the number of returned completed questionnaires, resulting in an overall response rate of 75%.

The high response rate was attributed to the presence of the researcher in the area distributing and collecting the questionnaire. Participants did not need to expend any additional effort with mailing or interviewing, and the questionnaire gave them something to do while they waited. The researcher collected the questionnaires or they were placed in the well marked box located in the pharmacy waiting area. The entire process was completed while the patients waited or before the patient departed the waiting area. The purpose of conducting the questionnaire at the point of service was to capture the patient's satisfaction as it occurred and was fresh in their minds. Waiting for a mailed questionnaire can allow for recollections to change or be forgotten and then questionnaires do not get completed or returned. "It is easier, more controlled and more economical to use structured questionnaires in the outpatient department rather than having respondents return the questionnaire later" (Hiidenhovi, Laippala & Nojonen, 2001, p. 703).

The data was collected from a sample of the population utilizing the RACH out patient pharmacy. The study was administered over a four month period beginning in December 2005 and completed in March 2006. A pilot study was conducted in December 2005 and during each remaining month a one week period, Monday through Saturday, was selected by the RACH

BOD and Pharmacy Department to conduct the questionnaire. Collection occurred during the weeks of 23 – 28 January 2006, 13 – 18 February 2006, and 6 – 11 March 2006. The weeks chosen, one at the beginning of the month, one in the middle of the month, and one at the end of the month, were to control for the likelihood of repeat customers based on their prescription schedules.

Ethical considerations for this marketing assessment questionnaire were undertaken to protect patient privacy and confidentiality concerns. The questionnaire did not require nor request patients to identify themselves in any manner. Participation in the study was voluntary. Information regarding the intent and purpose of the questionnaire was outlined in the initial paragraph on the questionnaire. Upon verbal requests by patients further information was provided to clarify or explain the intent and purpose of the study.

Sample size: Currently RACH has an eligible population of approximately 50,000 beneficiaries with an enrolled population of approximately 33,500. Encounter data describing the number of patients through the pharmacy in the weeks studied, and the amounts and types of prescriptions filled, new or refill was captured using Q-matic™. For January, February and March 2006 the average weekly number of patients through RACH pharmacy was 2330, 2271 and 2262 respectively. Q-matic™ provided prescription workload and patient demographic data; PDTS provided cost and utilization data from the RACH outpatient pharmacy points of service, the retail network, and the mail order pharmacy; and the RACH patient representatives, Joan Gutierrez and Kurt Acker provided data on complaints and compliments.

The instrument used in this study was adapted from an existing study because of its demonstrated reliability and validity. The use of a proven measurement tool, the RAND Corporation questionnaire, lends credibility to the process in this study (personal conversation

with Dr. A. David Mangelsdorff, US Army – Baylor Instructor, November 3, 2005). A good measurement tool is both valid and reliable. "Validity refers to the extent to which a test measures what we actually wish to measure. Reliability has to do with the accuracy and precision of a measurement procedure" (Cooper & Schindler, 2003, p. 231). Reliability of the research tool, for internal consistency, was assessed using Cronbach's coefficient alpha reliability analysis.

Descriptive Statistics: Description of Variables. The dependent variable for this project was the question of overall satisfaction; question number 27: How do you rate "Overall quality of care and service provided by RACH pharmacy?" The independent variables for the project fall under service quality based on five key dimensions, tangibles, reliability, responsiveness, assurance and empathy. "SERVQUAL is an empirically derived method that may be used by a services organization to improve service quality" (Fedoroff, 2006, p.1). The dimensions used were access, interpersonal care, communication and environment.

Dependent Variables: Overall quality of care and service provided by RACH pharmacy: is operationally defined from the patient's perspective and point of view in how they felt about their pharmacy experience. How well RACH pharmacy meets your needs is the second dependent variable in this study and is operationally defined again from the patient's perspective and if we are able to meet their pharmaceutical needs. Patient's perspective is derived from their personal experiences and expectations. In this study the variables were rated on a scale from "Poor" (1); "Fair" (2); "Good" (3); "Very Good" (4); "Excellent" (5); and "No Experience" which was coded as missing data.

Independent Variables: independent variable questions were combined into dimensions of satisfaction: access, interpersonal care, communication, and the environment; for access the

questions used to operationalize this dimension were: "How do you rate" the convenience of the location where you get prescriptions; arrangements for parking; hours RACH pharmacy is open; hours Pharmissary is open; ease of getting prescriptions refilled; ease of using the telephone system for refills; ease of using the Internet web based system for refills; length of time you waited in the pharmacy reception area; and ease of getting pharmaceuticals in an emergency were used. To operationally define interpersonal care the questions "How do you rate" the quality of treatment you receive; pharmacy staff's effort to make your visit comfortable and pleasant; friendliness and courtesy shown to you by the pharmacy staff; and reassurance and support offered to you by the pharmacists and staff were used. To operationalize communication the questions "How do you rate" the pharmacy staff listening to what you say; answers to questions concerning your medications; education received about prescribed medications; ease of speaking with a pharmacist when needed; training, skill and experience of the pharmacy staff; availability of educational materials or programs to enhance your health were used; and training, skill and experience of the staff. To operationalize the environment, the question "How do you rate" the waiting area environment (cleanliness, comfort, lighting, temperature) where you get your prescriptions was used.

Demographic data was collected on age, gender, ethnic background, rank and status of sponsor, education level, marital status, and number living in household. Utilization data was collected on the number of prescriptions filled, location for regular health care, and use of the pharmacy and Pharmissary.

Statistical Model: The results of the questionnaire were imported from Microsoft Excel into Statistical Package for the Social Sciences (SPSS) 13.0 student version to manipulate and analyze the data. The student version is limited to 1,500 cases, the study resulted in 1,519

returned questionnaires; using Microsoft Excel's Random Number Generator, 19 cases were randomly selected for exclusion resulting in the 1,500 cases used in this study. The cases from the pilot study were run separately due to the 1,500 limitation of this version of SPSS. Descriptive statistics were computed on both demographic and utilization questions to measure trends, frequencies and summarize the data. Crosstabs were also utilized to determine frequency of use at the RACH pharmacy and Pharmissary among the beneficiary and gender categories. In conjunction with the crosstabs, Chi Square (X^2) was used to determine significance. Crosstabs, sometimes referred to as a 2 x 2 table, summarizes data into cells to provide relational insight among categories of variables. Chi Square compares observed with expected frequencies and is an appropriate test for significance when used with 2 x 2 tables and when the expected frequencies in the cells are five or more; in this study comparing utilization, both pharmacy and Pharmissary, with beneficiary category and gender, Chi Square is inappropriate as the Crosstabs have a third layer and the cells have less than five frequencies. Means and standard deviations were computed for both the dependent and independent variables. The study used Pearson correlation coefficient, *r* and multiple linear regression to predict or estimate the influence and relationship on the dependent variables "overall quality of care and service provided by RACH pharmacy" and "how well RACH pharmacy meets your needs" by the independent variables.

Pilot Study: A pilot study using the locally developed marketing assessment questionnaire was conducted to test the design and methodology of the research project. The pilot was conducted on December 27, 2005 by the pharmacy staff. The sample size for the pilot study was 50 questionnaires of which 39 were collected. The study captured data from the target population and simulated the procedures that were further developed for data collection and analysis. The participants were randomly selected from the patients waiting in the pharmacy

waiting area and asked if they would complete the questionnaire. The results of the pilot study were imported into a separate file in SPSS 13.0 student version from Microsoft Excel to keep the data separate from the main study and to keep from exceeding the caseload limitation of 1,500.

Results

The descriptive statistics for the pilot study were consistent with the findings obtained in the final analysis, the overall satisfaction with the RACH pharmacy service was 64%. The primary recipients from the pilot study were female (63%). The average age was 45, a little higher than the primary study, but the same age category of 25 – 34 year olds was the predominant age group. The majority of respondents in the pilot study was active duty (64%), Caucasian (63%), and married (77%), similar results were found in the project, as well as a high response rate of 82%, which is attributed to the on site location of the administrator. The pilot study also indicated similarities in the monthly utilization, 79% of respondents in the pilot study used the pharmacy once a month and 61% in the main study.

According to the patient representative's office for the period of this study there were eight complaints received in reference to the outpatient pharmacy, and five compliments received. The complaints were in reference to access (2); care (1); courtesy (1); and waiting (4); the compliments were in reference for assistance and one was a generic compliment.

Thirty-nine questionnaires were returned for the pilot study. A total of 1,519 (n) questionnaires were returned for the main study; of the 1,519, using Microsoft Excel's Random Number Generator, 19 cases were excluded to meet the 1,500 case limitation of the student version of SPSS 13.0. It had been assumed all questionnaires would be returned and be completely filled out, that was not the case, and therefore not every question has the same (n).

The overall response rate for the study was 75%, the high response rate is attributed to the physical presence of the administrator in the area during the collection period.

Demographics: Table 1 summarizes the demographic characteristics of the returned questionnaires. A total of 804 respondents were female (56%) and 625 (44%) were male. The average age of the respondents was 42 years old, with the majority, nearly one-quarter, of the respondents between the ages of 25 and 34. The majority of respondents was active duty (58%), Caucasian (59%) and married (74%). A percentage point separated the military pay grades E5 - E6 and E7 – E9, 34 and 35 percent respectively, with the majority of respondents being enlisted military (85%). The results indicate 1% of the respondents recorded their beneficiary category as an active duty dependent. This finding of 1% is attributed to poor question construction and review of the final questionnaire. Q37 asks "what is the sponsor's current status?"; the questionnaire intended to elicit experiences of the one completing the questionnaire and therefore Q37 should have asked what the respondents' status was for the results to be an accurate reflection of the respondents. Table 2 indicates that by beneficiary category those respondents that answered Q37 with active duty as the sponsor's status were the majority of respondents; 254 responded "good," 242 responded "very good" and 199 responded "excellent." The "excellent" response differences that are statistically significant ($X^2 = 87.404$; df = 5; $p < .0001$) and indicate a respondent's beneficiary category is a contributing factor with respect to satisfaction with overall quality of care and service provided by the RACH pharmacy.

Tables 4 and 5 show education level is another demographic characteristic that stands out revealing that the majority of respondents, 313 of the 512, have a vocational education with a majority also being active duty; Table 5 reveals there are significant differences that are statistically significant ($X^2 = 26.226$; df = 20; $p < .158$) and indicate that a respondent's

education level is a contributing factor with respect to satisfaction with overall quality of care and service provided by the RACH pharmacy.

Table 1. Demographic Characteristics

Demographic Characteristics		Number	Percentage
Beneficiary Category	Active Duty	780	57.9
	Active Duty Dependent	14*	1.0
	Retiree	455	34.8
	Dependent of a Retiree	57	4.3
	Reservist/National Guard	26	1.9
Gender	Male	625	43.8
	Female	804	56.1
Age	15 – 24 years	220	15.4
	25 – 34 years	372	26.0
	35 – 44 years	306	21.4
	45 – 54 years	166	11.6
	55 - 64 years	169	11.8
	> 65 years	200	14.0
Ethnic Background	African American	323	22.4
	Hispanic	128	8.9
	Native American	32	2.2
	Asian or Pacific Islander	46	3.2
	Caucasian	856	59.4
	Other	55	3.8
Marital Status	Married living with spouse	1041	74.3
	Married but separated	93	6.6
	Living as married but not married	20	1.4
	Divorced	77	5.5
	Widowed	76	5.4
	Never Married	94	6.7
Military Pay Grade	E1 – E4	193	14.5
	E5 – E6	456	34.2
	E7 – E9	465	34.8
	W01 – W02	24	1.8
	W03 – W04	24	1.8

Table 1. (continued) Demographic Characteristics

Demographic Characteristics		Number	Percentage
Military Pay Grade	W05	2	0.1
	O1 – O2	30	2.2
	O3 – O4	86	6.4
	O5 – O6	49	3.7
	> O7	6	0.4
Education Level	8th grade or less	17	1.2
	Some High School	51	3.6
	HS Diploma or GED	369	26.4
	Vocational Schooling	523	37.4
	College Degree	349	25.0
	Post Graduate Degree	89	6.4

* Discrepancy from Q37 , n = 1500

Table 2. Beneficiary Category x Overall Quality

Beneficiary Category x Overall Quality							
		Overall Quality					
		Poor	Fair	Good	Very Good	Excellent	Total
Beneficiary Category	Active Duty	12	70	254	242	199	777
	Active Duty Dependent	0	3	4	3	4	14
	Retiree	9	21	86	127	210	453
	Dependent of Retiree	2	4	22	12	17	57
	Reserve or National Guard	0	1	3	12	9	25
Total		23	99	369	396	439	1326

Table 3. Chi-Square Test: Beneficiary Category x Overall Quality

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	87.404[a]	20	.000
Likelihood Ratio	83.476	20	.000
Linear-by-Linear Association	28.425	1	.000
N of Valid Cases	1332		

a. 14 cells (46.7%) have expected count less than 5. The minimum expected count is .06.

Table 4. Education Level x Beneficiary Category

	Beneficiary Category					
Education Level	Active Duty	Active Duty Dependent	Retiree	Dependent of Retiree	Reserve or National Guard	Total
8th grade or less	6	0	5	3	0	14
some high school	18	1	23	3	1	46
HS diploma or GED	191	3	133	18	6	351
Vocational education	313	6	167	17	9	512
college degree	203	4	110	11	8	336
graduate degree	50	0	30	4	2	86
Total	781	14	468	56	26	1345

Table 5. Chi-Square Test: Education Level x Beneficiary Category

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.226[a]	20	.158
Likelihood Ratio	22.377	20	.320
Linear-by-Linear Association	5.437	1	.020
N of Valid Cases	1345		

a. 12 cells (40.0%) have expected count less than 5. The minimum expected count is .15.

Utilization: Table 6 summarizes the utilization characteristics of the respondents. The overwhelming majority of respondents (86%) received their regular health care at RACH, and had been in to see their provider at least one time within the last month. The average number of prescriptions filled per respondent per visit was two with the majority receiving one to three

prescriptions. About 39% of the respondents had never used the Pharmissary and conversely 37% had used the Pharmissary once a month. The majority of respondents (61%) indicated using the RACH main outpatient pharmacy once a month. The majority of respondents were also enrolled in TRICARE Prime, the Military Healthcare System's premier health insurance plan. The percentage of Tricare for Life and Medicare insurance holders were about equal, 11% and 10% respectively. Table 7 elaborates on who the frequent users of the RACH pharmacy are and respectively Table 8 for who uses the Pharmissary. The frequent users of the RACH main pharmacy are the female active duty respondents, keeping in mind the respondents indicated what the sponsor's status was, so this could indicate the spouses or dependent wives are the ones utilizing the pharmacy once a month. The highest number indicated for multiple visits to the pharmacy is also the female active duty respondents with 140 indicating using the pharmacy 1-3 times a month. Similar results were also found in looking at who are the frequent users of the Pharmissary; the female active duty is the higher respondent, nearly 50% more than the male active duty respondents. One interesting finding is the number of male retiree respondents indicated using the Pharmissary at least once a month, n = 119. It is also an important finding to report the number of responses indicating they never use the Pharmissary, 42% of the total responses indicated never using the Pharmissary. This is not to say that the Pharmissary is not utilized, just that the users of the main RACH pharmacy do not use the Pharmissary.

Table 6. Utilization Characteristics

Utilization Characteristics		Number	Percentage
Number of prescriptions filled per visit	1 – 3	1203	80.2
	4 – 6	165	11.0
	> 6	19	1.2

Table 6 (continued). Utilization Characteristics

Utilization Characteristics		Number	Percentage
Regular Health Care			
Reynolds Army Community Hospital		1284	85.7
Comanche County Memorial Hospital		88	5.9
Southwester Medical Center		57	3.8
Indian Health Services		1	0.1
Other (network or private office)		104	6.9
Last 4 weeks	None	483	32.2
	1 time	490	32.7
	2 times	317	21.1
	3 – 5 times	165	11.0
	>6 times	28	1.9
How long since last visit	<one month	671	44.8
	1 – 3 months	402	26.8
	4 – 6 months	135	9.0
	7 – 12 months	63	4.2
	> 12 months	189	12.6
Use of RACH pharmacy	Once a month	917	61.2
	1 – 3 times a month	411	27.4
	> 4 times a month	54	3.6
Use of Pharmissary	Once a month	553	36.8
	1 – 3 times a month	228	15.2
	> 4 times a month	38	2.5
	Never	578	38.6
Insurance	Tricare Prime	1087	72.5
	Tricare Standard	85	5.7
	Tricare Extra	7	0.5
	Tricare for Life	167	11.1
	Tricare Plus	9	0.6
	Medicare	154	10.3
	Other	57	3.8

n = 1500

Table 7. Pharmacy Utilization x Beneficiary Category x Gender

Pharmacy Utilization x Beneficiary Category x Gender								
			Beneficiary Category					
Gender			Active Duty	Active Duty Dependent	Retiree	Dependent of Retiree	Reserve or National Guard	Total
Female	Pharmacy Utilization	once a month	277	2	122	31	2	434
		1-3 times a month	140	1	81	14	3	239
		more than 4 times a month	17	0	6	2	0	25
	Total		434	3	209	47	5	698
Male	Pharmacy Utilization	once a month	203	6	138	4	16	367
		1-3 times a month	56	2	75	1	2	136
		more than 4 times a month	9	1	13	0	0	23
	Total		268	9	226	5	18	526

Table 8. Pharmissary Utilization x Beneficiary Category x Gender

Pharmissary Utilization X Beneficiary Category X Gender								
			Beneficiary Category					
Gender			Active Duty	Active Duty Dependent	Retiree	Dependent of Retiree	Reserve or National Guard	Total
Female	Pharmissary Utilization	once a month	144	1	86	23	0	254
		1-3 times a month	38	2	63	11	2	116
		more than 4 times a month	12	0	3	3	0	18
		never	258	0	48	9	3	318
	Total		452	3	200	46	5	706
Male	Pharmissary Utilization	once a month	98	4	119	5	4	230
		1-3 times a month	31	1	53	0	0	85
		more than 4 times a month	4	0	11	0	0	15
		never	142	5	36	0	15	198
	Total		275	10	219	5	19	528

Table 9. Gender x Overall Quality

Gender X Overall Quality								
			Overall Quality					
			Poor	Fair	Good	Very Good	Excellent	Total
	Gender	Female	17	74	247	245	221	804
		Male	8	26	137	194	260	625
	Total		25	100	384	439	481	1429

Table 10. Chi–Square Test: Gender x Overall Quality

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	45.686[a]	5	.000
Likelihood Ratio	46.441	5	.000
Linear-by-Linear Association	38.984	1	.000
N of Valid Cases	1434		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.19.

Descriptive Statistics: The questionnaire contained 22 questions under the four dimensions of satisfaction: access, interpersonal care, communication and environment. The questions were rated on a scale from "poor" to "excellent" with "No Experience" being coded as missing data. Table 11 summarizes the responses to the 22 questions with mean scores and standard deviations.

The majority of responses as indicated in Table 2 were the active duty respondents. Table 2 indicates that by beneficiary category those respondents that answered Q37 with active duty as the sponsor's status were the majority of respondents, 254 responded "good," 242 responded "very good" and 199 for "excellent." The "excellent" response was only slightly higher in the retired category with 210 responded excellent. Table 2 also shows the beneficiaries that were least satisfied, "poor" and "fair." By percentage of beneficiary category the active duty respondents and dependents of retirees indicated an equal response rate of low satisfaction with

overall quality, 10.5%, retirees had 6%. Table 3 reveals there are significant differences that are statistically significant ($X^2 = 87.404$; df = 5; $p < .0001$) and indicate that a respondent's beneficiary category is a contributing factor with respect to satisfaction with overall quality of care and service provided by the RACH pharmacy. The majority of responses exceeded 3, therefore "very good." The lowest mean score was for "ease of using the Internet to refill prescriptions," 1.04, a rating of "1" was "poor," with a standard deviation of $\pm$ 1.73. The other low mean score was for "ease of getting pharmaceuticals in an emergency," 1. 74, which falls between "1" "poor" and "2" "fair," with a standard deviation of $\pm$ 1.92. The highest mean score, 3.94 is attributed to the dimension of interpersonal care and asked the question relating to "friendliness and courtesy shown to you". The score fell between "3" as "good" and "4" as "very good" with a standard deviation of $\pm$ 1.07.

Table 11. Descriptive Data for Dependent and Independent Variables

Variable	N	Mean*	SD
DEPENDENT VARIABLES			
Satisfaction:			
Overall quality of care and services	1465	3.85	1.05
How well RACH pharmacy meets needs	1461	3.79	1.08
INDEPENDENT VARIABLES			
Access:			
Convenience of location	1463	3.82	1.06
Arrangements for parking	1453	3.05	1.28
Hours pharmacy is open	1450	3.69	1.13
Hours Pharmissary is open	1444	2.88	1.81
Ease of getting refills	1455	3.29	1.62
Ease of using telephone for refill	1441	2.62	2.06
Ease of using Internet for refill	1413	1.04	1.73
Length of time waited	1457	2.59	1.24
Ease of getting pharmaceuticals in emergency	1441	1.74	1.92

Table 11. (continued) Descriptive Data for Dependent and Independent Variables

Variable	N	Mean*	SD
INDEPENDENT VARIABLES			
Interpersonal Care:			
Quality of treatment you receive	1463	3.86	1.10
Staff effort to make visit comfortable	1459	3.63	1.21
Friendliness and courtesy shown to you	1465	3.94	1.07
Reassurance offered to you by staff	1461	3.20	1.58
Communication:			
Pharmacy staff listening to what you say	1463	3.79	1.22
Answers to questions concerning meds	1452	3.80	1.27
Education received about prescriptions	1449	3.69	1.37
Ease of speaking with a pharmacist	1450	2.84	1.78
Availability of educational materials	1453	2.99	1.76
Training, skill and experience of staff	1453	3.47	1.48
Environment:			
Waiting area environment	1463	3.67	1.11

* All variables are coded on a 5-point scale, '5' being the highest rating

The frequencies of responses by percentage to each dependent and independent variable is outlined in Table 12. Approximately 63% of the respondents indicated their overall evaluation of the quality of care at RACH as "very good" or "excellent." Table 9 reveals females indicated their overall level of satisfaction to be "very good" or "excellent" more so then males did, 466 and 454 respectively. Table 10 shows there are significant differences which are statistically significant ($X^2 = 45.686$, df = 5, $p < .0001$) and indicate that a respondent's gender is a contributing factor with respect to satisfaction with overall quality of care and service provided by the RACH pharmacy. Table 2 reveals the active duty respondents were also the majority of respondents indicating "very good" or "excellent." The same categories used in the PLPSS survey, indicated the overall assessment to be between 38 and 60%, with an average of 48%, for the 12 month period from September 2004 through September 2005. The highest frequencies of

excellent responses were for the responses: quality of treatment you received 34.7%; answers to questions concerning medications 34.7%; and the highest frequency of 37.6% was attributed to friendliness and courtesy shown to you. The highest frequencies of "poor" responses were for the length of time waited 20.4%, followed by arrangements for parking at 8.9% and ease of getting pharmaceuticals in an emergency, 4.9%.

Table 12. Dependent and Independent Variables Response by Percentage

Question Number*	Poor	Fair	Good	V. Good	Excel
DEPENDENT VARIABLE					
Satisfaction:					
27. Overall quality of care and services	1.7	6.9	26.4	29.5	32.8
26. How well RACH pharmacy meets needs	1.7	8.7	26.7	28.8	30.9
INDEPENDENT VARIABLE					
Access:					
6. Convenience of location	1.2	6.8	28.8	28.4	31.6
9. Arrangements for parking	8.9	20.5	30.3	19.4	15.4
12. Hours pharmacy is open	1.7	8.5	28.4	28.9	27.6
13. Hours Pharmissary is open	1.3	7.0	22.9	22.3	20.8
14. Ease of getting refills	3.0	8.9	21.6	24.1	27.4
15. Ease of using telephone for refill	2.1	5.0	14.3	17.2	25.6
16. Ease of using Internet for refill	1.2	2.9	10.2	5.9	7.3
18. Length of time waited	20.4	27.7	24.5	15.7	8.0
20. Ease of getting pharmaceuticals in emergency	4.9	7.2	13.9	11.3	12.1
INDEPENDENT VARIABLE					
Interpersonal Care:					
7. Quality of treatment you receive	1.6	7.7	24.4	28.2	34.7
11. Staff effort to make visit comfortable	2.4	9.3	28.6	26.1	28.4
21. Friendliness and courtesy shown to you	1.9	5.5	24.1	27.8	37.6
22. Reassurance offered to you by staff	1.5	6.5	30.0	23.5	22.7
INDEPENDENT VARIABLE					
Communication:					
8. Pharmacy staff listening to what you say	1.3	6.6	23.5	28.8	33.8
10. Answers to questions concerning meds	0.6	4.4	23.1	29.1	34.7
17. Education received about prescriptions	1.1	4.0	23.7	28.6	32.4

Table 12. (continued) Dependent and Independent Variables Response by Percentage

Question Number*	Poor	Fair	Good	V. Good	Excel
INDEPENDENT VARIABLE					
Communication (continued):					
19. Ease of speaking with a pharmacist	3.1	8.7	22.1	22.3	19.7
23. Training, skill and experience of staff	0.5	4.7	25.7	29.4	26.3
24. Availability of educational materials	1.7	5.5	25.4	22.7	22.1
INDEPENDENT VARIABLE					
Environment:					
25. Waiting area environment	2.7	11.0	27.7	28.4	27.5

* All variables are coded on a 5-point scale, '5' being the highest rating

Reliability: Inter-item correlations were computed on each dimension of satisfaction: access, interpersonal care, communication and environment. Reliability of the research tool, for internal consistency, was assessed using Cronbach's coefficient alpha reliability analysis. Cronbach's alpha for the dimension of access with nine questions was .766; for interpersonal care with four items was .807; for communication with six items was .771. "It is conventional to view an α of 0.70 or greater as indicative of a reliable scale" (Hinton, 2004, p. 303).

Correlations: Correlation coefficients were determined for the dimensions of satisfaction with the dependent variables. The coefficients were used to determine by dimension which had a greater influence on overall satisfaction with the pharmacy service. Table 13 outlines the inter item correlation coefficients within each dimension; each correlation is significant to the $p < .01$ level. The correlation coefficients determine strength or association of the relationship between variables, correlation coefficients range between -1 and 1. The normal acceptable range of correlation coefficients for the social sciences is .30 to .70. All the correlation coefficients for this project are within the normal range and are positive. The highest correlation with overall

quality of care and treatment at $r = .714$, was with friendliness, Q27 and Q21; with meets needs $r = .656$ was also friendliness, Q26 and Q21. Following close behind is the correlation between waiting area environment and overall quality of care $r = .676$, Q25 and Q27, and then followed by the correlation between quality of treatment you received and overall quality of care $r = .661$, Q27 and Q7. The lowest correlation significant to the $p < .01$ was between overall quality of care and ease of using the Internet web based system for refills $r = .095$, Q27 and Q16. The next lowest correlation was between ease of using the telephone for refills and overall quality of care $r = .188$, Q27 and Q15.

Table 13. Inter-Item Correlations for the Dependent and Independent Variables

Independent Variables	Dependent Variables Questions**	
ACCESS:	Q26	Q27
Q6. Convenience of the location	.527	.552
Q9. Arrangements for parking	.387	.401
Q12. Hours pharmacy is open	.564	.547
Q14. Ease of getting refills	.406	.397
Q15. Ease of using phone for refill	.190	.188
Q16. Ease of using Internet for refill	.072	.095
Q18. Length of time waited	.554	.580
Q20. Getting meds in emergency	.215	.217
INTERPERSONAL CARE:	Q26	Q27
Q7. Quality of treatment you receive	.627	.666
Q11. Staff effort to make visit comfortable	.608	.662
Q21. Friendliness and courtesy shown to you	.656	.714
Q22. Reassurance offered to you by staff	.431	.428
COMMUNICATION:	Q26	Q27
Q8. Pharmacy staff listening to what you say	.564	.579
Q10. Answers to questions concerning meds	.471	.485
Q17. Education received about prescriptions	.459	.457
Q19. Ease of speaking with a pharmacist	.408	.397
Q23. Training, skill and experience of staff	.480	.492
Q24. Availability of educational materials	.362	.357

Table 13. (continued) Inter-Item Correlations for the Dependent and Independent Variables

Independent Variables	Dependent Variables Questions**	
ENVIRONMENT:	Q26	Q27
Q25. Waiting area environment	.641	.676

** Correlation is significant at the 0.01 level (2-tailed)

Discussion

The purpose of this project was to answer the research question: Are RACH patients experiencing dissatisfaction with their overall pharmacy experience and if so which beneficiary category? The results from this project, using the locally developed marketing assessment questionnaire, illustrate 63% of the respondents indicated their overall evaluation of the quality of pharmacy care and services at RACH as "very good" or "excellent," therefore rejecting the null hypothesis and accepting the alternate hypothesis, the DoD PLPSS result for overall satisfaction with pharmacy services is not reflective of all the beneficiary categories of the RACH patient population. The active duty respondents were the majority that indicated the lowest and highest satisfaction. Eighty-two active duty respondents indicated a "poor" or "fair" response and 30 retiree respondents indicated "poor" or "fair" responses. Active duty respondents (441) indicated "very good" or "excellent" responses while retirees (337) answered similarly. The additional intent of this study was to determine what contributes to the sub par satisfaction as reported on the PLPSS. The results of this marketing assessment questionnaire will allow the leadership at RACH to defend inquiries from higher commands about pharmacy outpatient services.

Questions from the RACH marketing assessment questionnaire adopted from the RAND© Corporation for RACH pharmacy, covered a range of topics including courtesy, wait

times, education, convenience, and attentiveness; the DoD PLPSS survey asks one overarching question relating to pharmacy satisfaction: "Overall, how would you rate your Pharmacy experience" with available responses being "No Experience" (0); "Poor" (1); "Fair" (2); "Good" (3); "Very Good" (4); and "Excellent" (5). The DoD questionnaire results as currently published do not stipulate what is satisfying or dissatisfying to the respondents, and is therefore not an accurate reflection of the patients experience or perception of the RACH pharmacy.

In comparison with the PLPSS, the research tool for this project addressed more areas of patient interface and asked questions from a range of topics relating to the RACH pharmacy and the patient's experience with and perceptions of the pharmacy service. Sixty-three percent of the respondents indicated their overall evaluation of the quality of pharmacy care and services at RACH as "very good" or "excellent." The same categories, "very good" and "excellent," used in the PLPSS survey, indicated the overall assessment to be between 38 and 60%, for the 12 month period from September 2004 through September 2005.

The results from this study show the RACH pharmacy staff does a good job with interpersonal care, with all subcategories within the dimension showing a rating of 3.20 or higher, followed by communication, with four out of six subcategories within the dimension to be 3.47 or higher. As the administrator and observer, I believe this relates to face-to-face communication with the pharmacy staff. Communication as a dimension revealed that once the connection is made between the patient and the RACH pharmacy staff communication is good, the average mean score for the dimension was 3.43, indicating a good to very good rating. Communicating in person with an available pharmacist is hard when we are experiencing staffing shortages. Respondents had more positive attitudes or responses by percentage under

the dimension of interpersonal care, most specifically in the friendliness and courtesy shown to the patient.

"Your service quality is interpreted through your communication which forms the basis for a therapeutic relationship with patients" (Clark, Drain & Malone, 2004, p. 2). Effective communication is the result of clear messages being sent, received and understood. The aging beneficiary population, changes to the pharmacy insurance benefit packages, rising costs of pharmaceuticals and the growing dependence on medications means finding the best way to communicate and inform our consumers who are most likely to use our services.

The challenges with our communication are the methods available, in person, over the telephone, on the Internet and through printed material. Communicating over the telephone, primarily for refills, is difficult when the system is automated and one has questions regarding their medication. Communication on the Internet, again for refills, is another challenge as indicated by the low mean score of 1.04, which indicates either no computer or Internet access, no experience with using the Internet or no knowledge of the service. I recall one beneficiary being excited to learn she could refill her prescriptions on line, she learned this from answering the questionnaire and inquired as to what the web address was; this indicates we could publish and market this information better. This project also illuminated the fact that as a means for communication with our beneficiary population the Internet is not the most feasible. A total response in favor of using the Internet for refills yielded a 13.2%. Many of the responses had indicated a "No Experience" rating, to this question, which indicates either no knowledge of the service availability, lack of computer knowledge and experience, or lack of ownership of a personal computer.

Further review of the marketing assessment questionnaire revealed a need for clarification of question 37, "what is the sponsor's current status?" The results are unclear if the respondent is the sponsor or a dependent of the sponsor. This potentially skewed the outcomes as to which beneficiary category should be attributed with the results. The correct question to ask the questionnaire respondent should be "what is your status?" To correct for this in future studies, preview the questionnaire before sending it out to print and then review the final product before implementation.

The number of responses referencing methods for refilling prescriptions, such as telephone and Internet, had frequent "No Experience" response circled. Seventy-one percent of respondents indicated no experience with the Internet for refill and 33% indicated no experience with the telephone for refills. Patients physically must come in to the RACH pharmacy for new prescriptions but could use the telephone, the Internet or mail order to get their prescriptions refilled. The alternate methods for refill could potentially reduce the wait time and put more control into the hands of the patient as to when and where they pick up their prescriptions; the Pharmissary is a great alternate location as it is in the same complex with the installation commissary and therefore a convenient alternate location for pick up.

Question 18 on the marketing assessment questionnaire addressing the perception of wait time received the most negative responses overall. The patients wait in line to get a ticket and then wait again to have their number called. An overwhelming contributor to the extended wait time is the critical shortage we have in pharmacists. The original number of staff as indicated in the beginning of the project has diminished by three, bringing the total to eight pharmacists; this impacts the entire RACH pharmacy mission and causes delays to the waiting patients.

Time waited as part of the access dimension stands out as another area that could be improved. Wait time received the most recorded complaints by the patient representatives. Time is a limited resource and therefore regarded as precious, in our society multitasking is becoming the norm and therefore time not constructively engaged is time wasted. The dimension access included a question concerning perception of time waited, it received the most negative responses overall, with 48% regarding the wait as either "poor" or "fair;" this is a strong indicator for an area to improve. The system as it is available now is a double wait process, first patients wait to check in and get a ticket, queue waiting; and then a second wait while the prescription is being filled, this is referred to as in process waiting (DeMan, et al., 2005). In 1998, the process for obtaining prescriptions was one line for all customers, regardless of uniform and it was one single wait (personal conversation with Lieutenant Colonel Paul Roberts, US Army – Baylor Preceptor, June 12, 2006).

DeMan et al. (2005) states that explaining to consumers why they must wait is the single most effective management technique for managing waiting perception in relation to consumer perception of reliability. If the consumer does not know the reasons for waiting, the duration will seem to be longer than when the reason for waiting is known. The RACH beneficiaries can view the scrolling Q-matic™ message board which reports the number of tickets waiting and time per category, A, B, C, or D, but it is impersonal and not always accurate.

Patients do not fully understand the pharmacy service process and the pharmacy benefit, which is supported by the responses to the education level, with most having had at least a high school education. Patients would be more accepting of change if they were informed and understood the reasons for the change. Ticket numbers may be called out of sequence which adds to the frustration and ultimate dissatisfaction. Tickets are called based on category, such as

an A ticket being a priority or urgent fill, and a B ticket for an active duty member in uniform, both categories move ahead of the routine C tickets for filling. Additionally, some prescriptions are easier to fill because of the simplicity of the prescription, such as those that come prepackaged. As the project administrator I was asked "how come or why does it take so long?" I explained the ticket system, A, B, C, and D, and what each ticket category represents; that we were currently understaffed pharmacists; that some prescriptions come prepackaged; that some prescriptions are controlled items needing to be strictly accounted for from the vault; and that some patients are picking up numerous prescriptions, the average number of prescriptions from the study was two, but some patients receive as many as 15 or 16 in one visit.

In addition to the data collection, the researcher was able to make unscientific observations during the administration of the marketing assessment questionnaire. The observations revealed patients are generally grateful to have the service and the benefit, but would refine the system that would improve the process. Frequently the researcher was asked "how does it work" or frequently heard "every time I come here, it changes." This indicates a breakdown in communication between the institution and the customer. Another source of frustration for the patients was the inability to get their prescriptions from a civilian or network provider filled at RACH if it was no longer carried on the RACH formulary. The formulary list of available pharmaceuticals at RACH is posted on the Internet, but that information does not seem to be widely known, as evidenced of the responses to questions regarding the Internet. Seventy percent of respondents indicated no experience with the Internet for refills.

During the February collection week some changes were made in the pharmacy outpatient waiting area. The partitions separating the bank teller style windows were replaced with partitions that were nearly three times the size of the original ones. The intent was to

improve patient privacy. The new partitions are harder to maneuver around, especially for someone with a baby stroller, a wheel chair, crutches, a walker, a cane, or any apparatus that accompanies them such as wheeled oxygen; the partitions create more of a barrier to access from the patient's point of view. The partitions are a visual barrier between the pharmacy, the patient, and the Q-matic™ number screens; patients have to rely on each other or an overhead page to be called forward for assistance. All these challenges were facing the RACH pharmacy staff and still they were able to provide quality service with minor disruption, it possibly added to the length of time waited at a minimum, which was indicated on Table 12 with a 20.4% response rate as "poor."

Conclusions

Customer satisfaction is a relatively new concept used to measure performance in the Military Healthcare System. Satisfaction is decided individually and is a personal reflection of the services rendered and experienced. Reynolds Army Community Hospital is striving towards satisfaction excellence and this project demonstrated that the fundamentals of good customer service and customer satisfaction are present in the services provided.

The outcome from the marketing assessment questionnaire showed RACH active duty beneficiaries are satisfied, "very good" to "excellent," with their overall pharmacy experience, therefore the alternate hypothesis which states: the DoD PLPSS result for overall satisfaction with pharmacy services is not reflective of all the beneficiary categories of the RACH patient population, is supported and accepted.

This marketing assessment questionnaire will allow the RACH Board of Directors to refute the findings as reported on the DoD PLPSS and will provide a foundation for making improvements, improvements focused at the beneficiary category least satisfied and

underrepresented in the results. The category least satisfied in the results is the active duty and the category underrepresented in the results is the retirees.

Recommendations

Reynolds Army Community Hospital beneficiaries indicated they are satisfied with their overall pharmacy experience. While we are meeting the needs of the beneficiaries, the satisfaction scores could improve and be more reflective of GPRMC and the AMEDD if we hired for the staffing shortfalls and emphasized clear proactive communication, interactive education, efficient processes and consistent and current information flow.

To enable effective and proactive communication and information flow to the beneficiary population, I suggest an advice telephone line dedicated to answer patients' health related questions or connect the caller to an appropriate staff member; a scanner system for patients to scan the prescription bar code. The scanner system or bar code reader, similar to price check machines at local department stores, could be located at the main outpatient pharmacy waiting area, or main lobby of the hospital or at the Post Exchange mall so patients can queue the system to pull their refills for pick up later that day.

We could educate the beneficiaries on how to appropriately utilize the systems we have in place by providing a computer terminal at the greeters' desk to have the greeters assist and educate people with using the Internet for refills and using Tricare Online for making appointments. We need to ensure that patients are aware of the alternate ways to get their prescriptions, through mail order and retail, and if they choose to use the MTF, how to best use the system to their advantage, such as drop off and pick up services, or called in prescriptions for Pharmissary pick up. I also suggest we inform beneficiaries on how to obtain a copy of the formulary list, which is available on the Internet, to bring to their providers so that the network

providers could prescribe off the RACH formulary for a compatible drug. Additionally, the waiting area could also be evaluated for patient flow. The line for checking in frequently spills out into the main lobby causing congestion and seating is often at a premium.

Printed media is another method we use at RACH for communicating with our beneficiaries, what we should do is print it in larger font and make it attractive to get the attention of the reader so they will gravitate to it to read and stay informed. When prescriptions are being picked up, have the bags pre loaded with flyers, with information about the hours of operation or projected closures for training holidays, how to use the Internet for refills, and the health promotion topic for the month. We could have the greeters hand out the flyers to those coming and going from the building.

We could market information regarding upcoming events, operating hours, and changes to benefits through the installation newspaper and television channels, on the scrolling marquee signs on post, through the family readiness groups, wives clubs and retiree organizations. Also we could broadcast public service announcements concerning updates to Tricare; videos on how to use alternate methods for filling prescriptions; educate patients on health and wellness promotions, such as the Asthma classes and information about using the Tricare pharmacy benefit, the videos could be played in the waiting areas throughout the facility. If we occupy the patients' waiting time with useful information the time will not seem wasted or seem as long.

The results of this research tool and others like it will enable the BOD to better provide services to the beneficiaries, target problem areas, and focus on target population groups. The information collected from this project can be used as a baseline for further detailed research. As stated in Mangelsdorff (1994), it is imperative that military hospital commanders know as much as possible about their potential patients' healthcare utilization patterns, attitudes, and healthcare

needs. Baseline measures need to be recorded before organizational changes are implemented in order to determine the effects of interventions. The marketing assessment questionnaire is a first step to learn about what the patients' experiences and perceptions are about the RACH outpatient pharmacy.

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Appendix A: Marketing Assessment Questionnaire

Statement of Confidentiality

All information that would permit identification of you will be regarded as strictly confidential, will be used only for the purposes of operating and evaluating the study, and will not be disclosed or released for any other purposes without your prior consent, except as required by law.

Instructions for filling out the questionnaire

You have been randomly selected for this questionnaire. It is important to us that every person selected to participate do so in order to obtain accurate results. Your responses will be treated as confidential but will be combined with those of other participants to help improve your health care.

1. Please answer every question (unless you are asked to skip questions because they don't apply to you). Some questions may look like others, but each one is different.
2. Answer the questions by **circling** the appropriate number or by filling in the answer as requested.
3. If you are unsure about how to answer a question, please give the best answer you can.

In order to obtain accurate information, we need to ask you several questions. The questions ask for your opinions about the healthcare you receive from Reynolds Army Community Hospital.

1. Where do you go for your regular health care?
   _____Reynolds Army Community Hospital (RACH)
   _____Comanche County Memorial Hospital
   _____Southwestern Medical Center
   _____Indian Health Services
   _____Other
   _____Please Specify
2. During the last 4 weeks, how many times did you see a health care provider (person who gave you healthcare) at RACH?
   a. None 1
   b. 1 time 2
   c. 2 times 3
   d. 3 to 5 times 4
   e. 6 or more times 5
3. How long has it been since you last visited a health care provider at RACH?
   a. Less than 1 month 1
   b. 1 to 3 months 2
   c. 4 to 6 months 3
   d. 7 to 12 months 4
   e. More than 12 months 5
4. How often do you use the RACH Pharmacy for filling your prescriptions?
   a. Once a month 1
   b. 1 to 3 times a month 2
   c. More than 4 times a month 3
5. How often do you use the Pharmissary for filling your prescriptions?
   a. Once a month 1
   b. 1 to 3 times a month 2
   c. More than 4 times a month 3
   d. Never 4

How do you rate: (Circle one number on each line)

	Poor	Fair	Good	Very Good	Excellent	No Experience
6. Convenience of the location where you get prescriptions	1	2	3	4	5	0
7. Quality of treatment you receive	1	2	3	4	5	0
8. Pharmacy staff listening to what you say	1	2	3	4	5	0
9. Arrangements for parking	1	2	3	4	5	0

How do you rate: (Circle one number on each line)

	Poor	Fair	Good	Very Good	Excellent	No Experience
10. Answers to questions concerning your medications	1	2	3	4	5	0
11. Pharmacy staff's effort to make your visit comfortable and pleasant	1	2	3	4	5	0
12. Hours RACH Pharmacy is open	1	2	3	4	5	0
13. Hours Pharmissary is open	1	2	3	4	5	0
14. Ease of getting prescriptions refilled	1	2	3	4	5	0
15. Ease of using the telephone system for refills	1	2	3	4	5	0
16. Ease of using the Internet web based system for refills	1	2	3	4	5	0
17. Education received about prescribed medications	1	2	3	4	5	0
18. Length of time you waited in the pharmacy reception area	1	2	3	4	5	0
19. Ease of speaking with a pharmacist when needed	1	2	3	4	5	0
20. Ease of getting pharmaceuticals in an emergency	1	2	3	4	5	0
21. Friendliness and courtesy shown to you by the pharmacy staff	1	2	3	4	5	0
22. Reassurance and support offered to you by the pharmacists and staff	1	2	3	4	5	0
23. Training, skill and experience of the pharmacy staff	1	2	3	4	5	0
24. Availability of educational materials or programs to enhance your health	1	2	3	4	5	0
25. The waiting area environment (cleanliness, comfort, lighting, temperature) where you get prescriptions	1	2	3	4	5	0
26. How well RACH pharmacy meets your needs	1	2	3	4	5	0
27. Overall quality of care and service provided by RACH pharmacy	1	2	3	4	5	0

Information about You:

The following questions will help us to insure that the opinions of different people are represented in this study.

28. How old were you on your last birthday?
    Write numbers in years? _____

29. Are you male or female?
    Male 1
    Female 2

30. How many prescriptions are you having filled today? _____

31. Which category best describes you
    African-American 1
    Hispanic 2
    Native American 3
    Asian or Pacific Islander 4
    Caucasian 5
    Other 6
    Please Specify . . . . . _____

32. What is the highest level of school you have completed?
    8th grade or less 1
    Some High School 2
    High School Diploma or GED 3
    Vocational school or some college 4
    College degree 5
    Professional or graduate degree 6

33. Counting yourself, how many people live in your house or apartment? Please include adults, babies, and children who usually stay with you as a member of your household.
    Number of people _____

34. At the present time, are you
    Married and living with spouse 1
    Married, but separated from spouse 2
    Living as married (but not married) 3
    Divorced 4
    Widowed 5
    Never married. 6

35. What kind of health insurance do you have?
    a. Tricare Prime 1
    b. Tricare Standard 2
    c. Tricare Extra 3
    d. Tricare for Life 4
    e. Tricare Plus 5
    f. Medicare 6
    g. Other 7
    h. Please specify . . . . . _____

36. What is the rank of the sponsor?

E1 – E4 1	W05 6
E5 - E6 2	O1-O2 7
E7 – E9 3	O3-O4 8
W01 – W02 4	O5-O6 9
W03 – W04 5	O7 and above 10

37. What is the sponsor's current status?
    - Active Duty 1
    - Active Duty Dependent 2
    - Retired 3
    - Dependent of a Retiree 4
    - Reservist/National Guard. 5

Thank you for completing this questionnaire, please place your completed questionnaire in the box designated in the waiting area.